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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/890,139	11/13/2001	N. Lennart Eriksson	LAGROTH-026	7721

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EXAMINER

YAO, SAMCHUAN CUA

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 09/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/890,139	<b>Applicant(s)</b> ERIKSSON ET AL.	
	<b>Examiner</b> Sam Chuan C. Yao	<b>Art Unit</b> 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 August 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 6-10 is/are pending in the application.
- 4a) Of the above claim(s) 9 and 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 97/04932 A1 in view of either (Gerhardt et al (US 5,643,376) or Fischer et al (US 5,063,010)), WO 98/50208 A1, Held (US 5,125,812), and optionally further in view of Pozzo et al (US 4,009,073).

WO '932 discloses a process for continuously making a ligno-cellulosic particle board, the process comprises providing a mat having binder coated lignocellulose particles, wherein the particles are dried to a predetermined moisture content; feeding the mat into pre-conditioning zone, where the mat is treated to a predetermined moisture content; feeding the pre-conditioned mat into a steam injection press; pressing and applying steam to the mat to cure the binder and form the particle board; and, delivering the particle board to a post-conditioning zone where *"the board is given the moisture content that is desired ..."* (emphasis added) and wherein emitted gases from the board such as formaldehyde are collected in the post- conditioning zone. (abstract; page 1 full paragraphs 1-2; page 4 lines 19-29; page 5 line 22 to page 6 line 4; figure 6)

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WO '932 is silent on how to treat a board to effectively achieve a desired moisture content during a post-conditioning operation. In particular, WO '932 does not teach *"conditioning said board by drawing a predetermined volume of air having a predetermined moisture content at a predetermined temperature through said board by means of suction applied through said board"*. However, it would have been obvious in the art to post-condition a board by subjecting the board to a heated air having a predetermined moisture content, using for example, a post-gas treatment similar to the method/apparatus taught by WO '208, where a *"gaseous treatment agent is contacted with at least one wall of the board and is caused to pass through the thickness of the board"* using a vacuum pressure, because: a) it is well known in the art to continuously manufacture a fiber board, where mat is treated with a heated air having a predetermined moisture content in a conditioning zone so as to form a conditioned mat having a desired moisture content as exemplified in the teachings of either Gerhardt et al (abstract; col. 2 lines 1-30, lines 56-68; figures 1-3) or Fischer et al (col. 2 lines 3-36; col. 3 lines 23-34; figures 1-2); b) as noted above, it is desired to recover emitted gases such as formaldehyde during a post-conditioning operation; c) WO '208 discloses subjecting at least one wall of a continuously moving pressed board with a gas treatment agent such as a steam and causing the gas to pass through the thickness of the board by forming a vacuum pressure on the opposing wall of the board so as to shorten a post-gas treatment time, and also to recover *"obnoxious emissions such as VOC gases released by the board"*

*material and for passing them to further processing.*" (emphasis added); wherein the gas treatment agent moisture content and temperature are controlled *"to achieve a desired effect on the material 1 being treated"* (abstract; page 1 lines 16-23, lines 32-37; page 2 lines 20-37; page 3 lines 1-37; col. 5 lines 24-37; claims 6-7 and 10).and optionally, d) it is also old in the art to moisturize a fibrous board to an in-line post-treatment operation by subjecting the board to a hot humidified air as exemplified in the teachings of Pozzo et al (col. 9 lines 33-41). It is worth-noting that Fischer et al teaches interchangeably using a pair of opposing steam/air mixture injectors (18, 18') **or** a steam/air mixture injector and an opposing suction line 20 to condition a mat to a desired moisture content and temperature (figure 2).

WO '932 is also silent on whether a resultant board is subjected to a finishing operation such as grinding. However, it would have been obvious in the art to subject a post-treated/conditioned board to grinding operation, because it is a notoriously common practice in the art to grind a board *"to its final dimensions in a grinding station"* in a continuous fiberboard manufacturing process as exemplified in the teachings of Held (col. 5 lines 27-45; figure 1).

With respect to claim 7, since as noted above, WO '208 teaches subjecting at one wall of a resultant board to a gas treatment operation (abstract; page 2 lines 23-33); and since WO '208 further teaches providing a plurality of treatment zones arranged in series; where the treatment zones are arranged in a countercurrent fashion (page 5 lines 1-22); the limitation in this claim would have

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been obvious in the art. An incentive for one in the art to perform the recited limitation in this claim would have simply been to obtain a self-evident advantage of subjecting the opposing wall surfaces of a resultant board to similar conditioning operation, thereby forming a uniformly conditioned particle board.

3. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references set forth in numbered paragraph 2 as applied to claim 6 above, and further in view of either Kunнемeyer (US 4,883,546) or Hagstrom (US 4,356,763) for reasons of record set forth in a prior office action dated 04-13-05, numbered paragraph 3.

### ***Response to Arguments***

4. Applicant's arguments filed on 08-05-05 have been fully considered but they are not persuasive.

On page 6 full paragraph 2-3, Counsel argues that, neither Gerhardt nor Fischer teaches "*drawing a predetermined volume of air having a predetermined moisture content through*" **a pressed board to** condition the board. Both Gerhardt and Fischer are directed to preheating operation for a particle mat using a conditioning air. Examiner agrees. However, one in the art, wanting to practice the process of WO '932 (i.e. condition a pressed board by moisturizing the board, while removing hazardous gaseous materials) would have look for solutions to a related art. The teachings of either Gerhardt and Fischer taken with WO '208 would have reasonably suggested to one in the art that a modified process/apparatus of WO '208 (i.e. using a heated air with a predetermined moisture content in combination with a vacuum pressure) can effectively be

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applied for moisturizing a pressed board in a process of WO '932, while effectively capturing and removing obnoxious gases. As noted above, WO '208 discloses subjecting at least one wall of a continuously moving **pressed board** with a gas treatment agent such as a steam and causing the gas to pass through the thickness of the board by forming a vacuum pressure on the opposing wall of the board so as to shorten a post-gas treatment time, and also to recover *"obnoxious emissions such as VOC gases released by the board material and for passing them to further processing."*; wherein the gas treatment agent moisture content and temperature are controlled *"to achieve a desired effect on the material 1 being treated"* (abstract; page 1 lines 16-23, lines 32-37; page 2 lines 20-37; page 3 lines 1-37; col. 5 lines 24-37; claims 6-7 and 10). Moreover, as further noted above, it is also old in the art to moisturize a fibrous board to an in-line post-treatment operation by subjecting the board to a hot humidified air as exemplified in the teachings of Pozzo et al (col. 9 lines 33-41).

On page 5 last 2 lines to page 6 line 3, Counsel further argues that neither Gerhardt nor Fischer add anything to a *"steam injection method of WO '932"*. First of all, it should be emphasized that, the steam injection operation taught by WO '932 is performed during a heat-pressing operation and not during a conditioning operation. While it is desired in WO '932 to moisturize a pressed board and to remove gaseous materials such as a formaldehyde during a post-conditioning operation, WO '932 is silent on how to effectively achieve these two objectives. It is respectfully submitted that, one in the art reading collectively the

teachings of the secondary references would have been motivated to post-condition a pressed board in a process of WO '932 by subjecting the board to a heated air having a predetermined moisture content, using for example, a post-gas treatment similar to the method/apparatus taught by WO '208, where a *"gaseous treatment agent is contacted with at least one wall of the board and is caused to pass through the thickness of the board"* using a vacuum pressure in order to effectively achieved the above two objectives.

As for Counsel's argument regarding the Pozzo et al, this optional reference is merely cited to show that it is old in the art to post-treat a pressed board in an in-line operation using a humidified air to enhance the characteristics of a finished board.

On page 7 full paragraph 1, Counsel argues that, WO '208 *"... is not directed to a process for making lignocellulosic boards. The best that can be said about WO '208 is that it teaches treating a board-like material by moving it through a gas treatment zone."* First of all, Counsel's attention is directed to page 3 lines 1-5 and page 4 lines 9-21, where the board-like material is disclosed to be *"a pressed wood-based particle board"* such as fiberboard. While WO '208 does not explicitly disclose making a pressed wood-based particle-board, it is reasonably understood that, the process of WO '208 is directed to a post-treatment operation on a process of making a lignocellulosic board. This is in fact the main essence of the present invention.



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As for Counsel's argument regarding a process of grinding a conditioned board, it is quite clear that, Counsel is resorting to a classic piece-meal analysis of applied references. It is respectfully submitted that, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). As noted above, grinding a conditioned board in a process of WO '932 would have been obvious in the art, because it is a notoriously common practice in the art to grind a pressed board to remove irregularities to a pressed board. The Held patent is cited as a supporting evidence.

As for Counsel's argument regarding claim 7, since as noted above, WO '208 teaches subjecting at one wall of a resultant board to a gas treatment operation (abstract; page 2 lines 23-33); and since WO '208 further teaches providing a plurality of treatment zones arranged in series; where the treatment zones are arranged in a countercurrent fashion (page 5 lines 1-22); the limitation in this claim would have been obvious in the art. An incentive for one in the art to perform the recited limitation in this claim would have simply been to obtain a self-evident advantage of subjecting the opposing wall surfaces of a resultant board to similar conditioning operation, thereby forming a uniformly conditioned particle board.

As for Counsel's argument regarding Kunнемeyer, it is be noted that, the claims as presently recited only requires using "*lignocellulose-containing boards*",

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therefore, the claimed limitation fails to define over a pressed board having a pair of protective layers, each comprising a wood dust layer. On page 9, Counsel disputes Examiner's assertion that, it is a common practice in the art to manufacture particleboards by either in a batch-wise/discontinuous or in a continuous manner. Counsel's attention is directed to Held, an art of record, where it is disclosed that, in general, "... *continuous processes use a double-band press, while discontinuous processes utilize single or multiple platen presses*" to manufacture a wood-based board (col. 2 line 63 to col. 3 line 2). Counsel's attention is further directed to Kawai et al (col. 5 lines 47-53). As for Counsel's argument that there is no motivation "*in any of the references cited that their teachings may be combined with a process that requires the formation of wood dust layers*". Examiner strongly disagrees. The teachings of Kunnemyer would have motivated one in the art to provide a pair of wood dust layers to a process of WO '932 to provide protective covering to a pressed board thereby substantially preventing losing "*high value material*" during a sanding operation (abstract; col. 1 line 34 to col. 2 line 63).

As for Counsel's argument a fiber board being "*as uniform a density distribution as possible*" is not equivalent to discrete layers "*substantially the same*" density, it is respectfully submitted that, the limitation discrete layers "*substantially the same*" density read on a fiber board being "*as uniform a density distribution as possible*". A fiber board having a uniform density distribution strongly suggests that it has a substantially the same density. If not, how can a fiber board have a

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uniform density distribution and yet not have a substantially the same density? It should be noted that, Counsel's argument is not completely commensurate with the scope of the recited claims. While claim 8 requires a pair of surface layers and a center layer, there is nothing in this claim, which positively requires the various layers being **discrete** layers. In other words, the claims as presently recited do not positively require forming an interface between a core layer and each of the pair of surface layers. Moreover, Counsel's attention is directed to the teachings of Hagstrom, where it is disclosed that "*... it is also possible to use the press control device for controlling the density profile of the finished boards. ... you can control the pressing sequence to obtain boards having dense skin and less dense core or boards having uniform density all over.*".

### **Conclusion**


5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Chuan C. Yao whose telephone number is (571) 272-1224. The examiner can normally be reached on Monday-Friday with second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Sam Chuan C. Yao  
Primary Examiner  
Art Unit 1733

Scy  
09-21-05